Milford Bridge
Spanning the Little Miami River on U.S. 50
City of Milford
Hamilton and Clermont Counties
Ohio

HAER No. OH-77

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Mid-Atlantic Regional Office
National Park Service
U.S. Department of the Interior
Philadelphia, Pennsylvania 19106

HISTORIC AMERICAN ENGINEERING RECORD

Milford Bridge
HAER No. OH-77

Location: Spanning Little Miami River on U.S. 50 at the junction of Hamilton and Clermont counties, Ohio, on the west side of the city of Milford, Ohio.

UTM: Zone 16 733510.4339250
Quad: Maderia, Ohio

Date of Construction: 1924

Builder: Superstructure - Standard Engineering and Contracting Company
Abutments/Approaches - John A. Foley Company

Present Owner: State of Ohio
Ohio Department of Transportation
25 South Front Street
P.O. Box 899
Columbus, Ohio 43216-0899

Present Use: Bridge has been declared unsafe and is presently closed to all traffic.

Significance: The location for the Milford has historically been used as a major river crossing throughout the development of the area. As demand increased for reliable modes of transportation, and technology advanced to provide the engineering required to meet these needs, a variety of bridge types have occupied this site. In addition, the road that the bridge served had become an important regional transportation link that served to connect Cincinnati to Chillicothe, Ohio, a major city in south-central Ohio. Although several crossings over the Little Miami River were constructed, namely at Remmington to the north and Newtown to the south, the crossing at Milford became the most utilized.

Project Information: This documentation was undertaken in March 1990, in accordance with the Memorandum of Agreement by the Ohio Department of Transportation, as a mitigation measure prior to the removal of the bridge.

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Prior to any structures being built on the site of the Milford Bridge, the river was forded either on foot or animal when low river levels would allow, or crossed with the use of a small ferry. The first recorded bridge across the river was a wooden footbridge constructed in 1805. This was during the period of early settlement of the area, with the village of Milford being nothing more than an emerging small service center. The footbridge was destroyed periodically, as the river exceeded its flood stage or the current was swift enough to dislodge the footings.

In 1818, the first large scale wooden structure was constructed as a toll bridge. It was built by various businessmen in the area that wished to provide a reliable means to cross the river. by this time, the village was beginning to develop in response to the growth of the surrounding agricultural landscape. As a result, a variety of services were located in the village to meet the rural needs. In addition, several mills were now found located on or near the river.

One result of this increased urban and rural agricultural activity was the development of a road transportation system that linked not only Milford and its surrounding area but a system that incorporated various areas of northern Clermont County and eastern Hamilton County.

In 1837, one year after the incorporation of Milford, a new wooden toll bridge was constructed. This bridge functioned on the same manner as the previous bridge in providing access across the river to the growing village and diversifying agricultural economy. Transportation links were in place by this time that connected Milford to the larger city of Cincinnati, located approximately 15 miles to the southwest of Hamilton County. With such a large market close by, the agricultural area adjacent to Milford was quite diverse in the variety of crops and fruits that were grown.

The developed road system that channeled people and agricultural products across the bridge was, by 1850, experiencing competition. The Little Miami Railroad, constructed in 1845 and located across from this bridge on the Hamilton County side, began to carry an increasing amount of agricultural products to Cincinnati and points north to Springfield, Ohio. *It is important to note that the route of the railroad was west of the bridge and followed the course of the river.* A station was located opposite the bridge. With the implementation of the railroad, the bridge continued to act as the major river crossing because farmers in western Clermont County were increasingly shipping their products by rail from the depot.

During the early 1870s, the roads and bridges were being taken over by the counties. The Milford Bridge came under joint control of Hamilton and Clermont counties. It was during this period that the older bridge was replaced by a wooden covered bridge, which functioned until 1894. Following a major flood that destroyed the bridge, a new Whipple metal truss bridge was constructed that year.

In 1906, a new technology was added to the transportation system of the area. The Cincinnati and Chillicothe Traction Line Company constructed an interurban line that extended from Hamilton County across a structure that was added to the truss bridge and through Milford into the surrounding countryside. This company remained in business until 1920, when the rise of automobile use and declining riders forced it to close.

As the result of damage by several floods to the abutments, the metal truss bridge was replaced in 1924 by the current Pennsylvania through truss. In addition, the bridge approach was slightly elevated to provide for additional clearance above the water. Hamilton County provided the design and the majority of funds for construction. The County Surveyor's Office designed the bridge, that was approved by both county commissions. Clermont County agreed that its share would not exceed $8,000 of the total cost, with the remaining costs to be provided by Hamilton County. By August 1924, bids were received and the lowest bid of $70,500 was approved from a local iron contractor, Standard Engineering and Contracting Company, to build the superstructure. This company was involved in the construction of various local bridges in Ohio, Kentucky and Indiana, as well as providing iron work for commercial and industrial buildings. The abutments and approaches were constructed by the John A. Foley Company, at a cost of $28,300.

The bridge consists of a single span with an overall length of 260 feet and a width of 32 feet, excluding cantilevered sidewalks on either side of the trusses. Minimum clearance under each portal strut is 20' 6", with a maximum clearance height of 29' 10" reached under the central struts. The design exhibits 12 panels, with each measuring 22' 4".

Material of construction is riveted steel throughout for chords, laterals, bracing and deck. Portal bracing exhibits iron struts and no spandrels. The deck is composed of 11 steel stringers supported by 13 steel floor beams. These beams are tied together with cross braces. The bridge is anchored to the concrete abutments by fixed bearings on the west side and roller bearings on the east side. These are pinned to the steel lower chord. Incorporated within the original design was a single set of tracks for an interurban link. No date plate was placed on the bridge.

Since its construction in 1924, the bridge has experienced minor rehabilitation over the years. This work has included painting at various times, replacement of several diagonals, and the deck has been replaced several times.

Because traffic had increased on the road that the bridge served, a new continuous steel plate girder bridge was built in 1978, approximately 50 feet to the south. The traffic pattern was then altered to allow for westbound one-way traffic to be carried on the Milford Bridge and eastbound on the new bridge. This arrangement was satisfactory until an inspection was undertaken in 1984, at which time, it was determined that the Milford Bridge should be posted to carry only 90 percent of the legal load limit because of a concern for the ability of the bridge to adequately carry the increasing traffic.

In 1985, it was determined that the Milford Bridge needed to be closed to all traffic because of substantial deterioration to certain areas of the floor beams, lower chord, deck stringers, lateral bracing and connections. With the closing of the bridge, two-way traffic was implemented on the adjacent bridge.

At the time the bridge was closed, the highway was carrying an average of 19, 280 vehicles per day. Because of the increased traffic, it has been decided that the Milford Bridge is to be demolished and replaced with a new bridge that will carry one-way traffic across the river.

SOURCES OF INFORMATION

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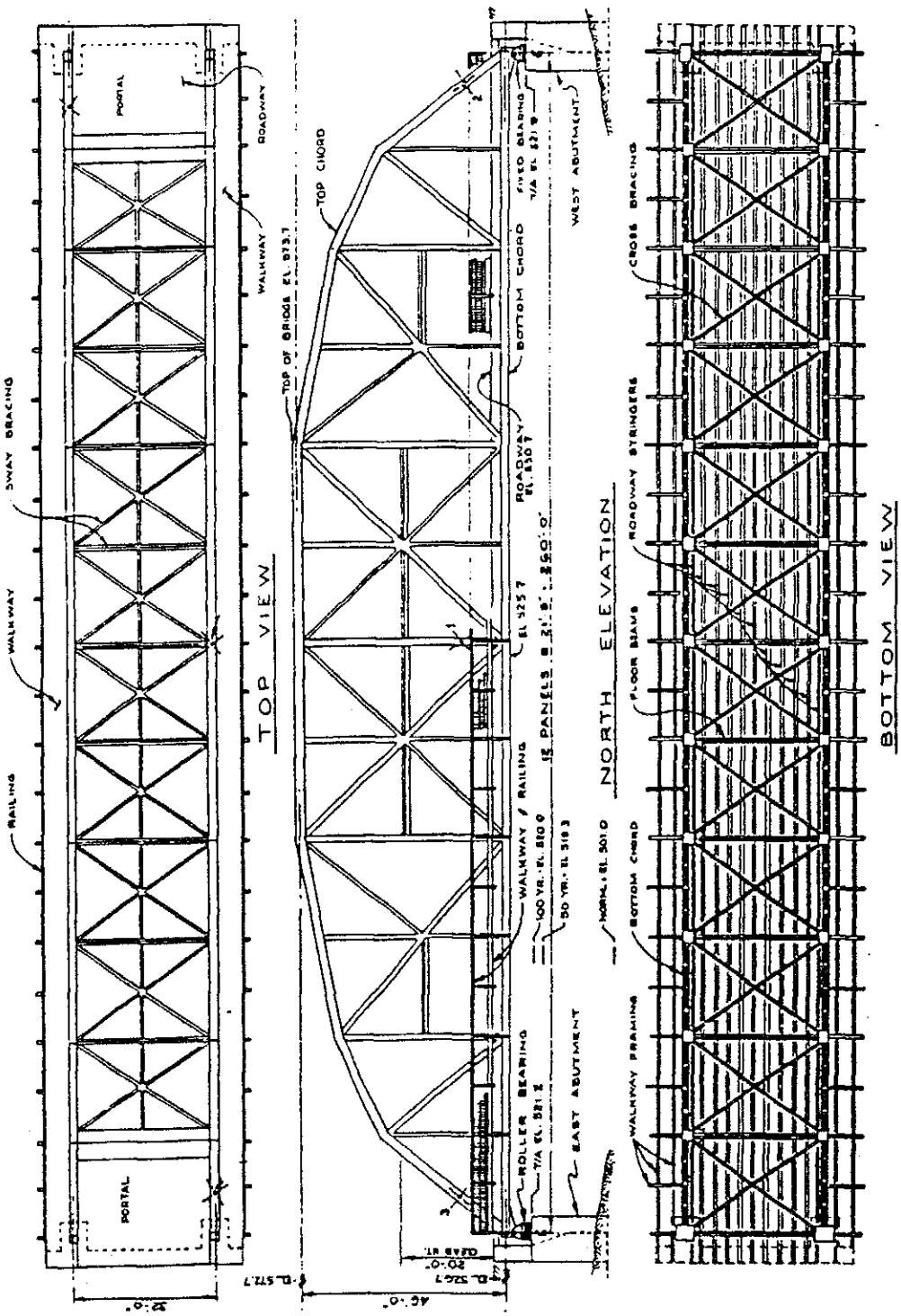
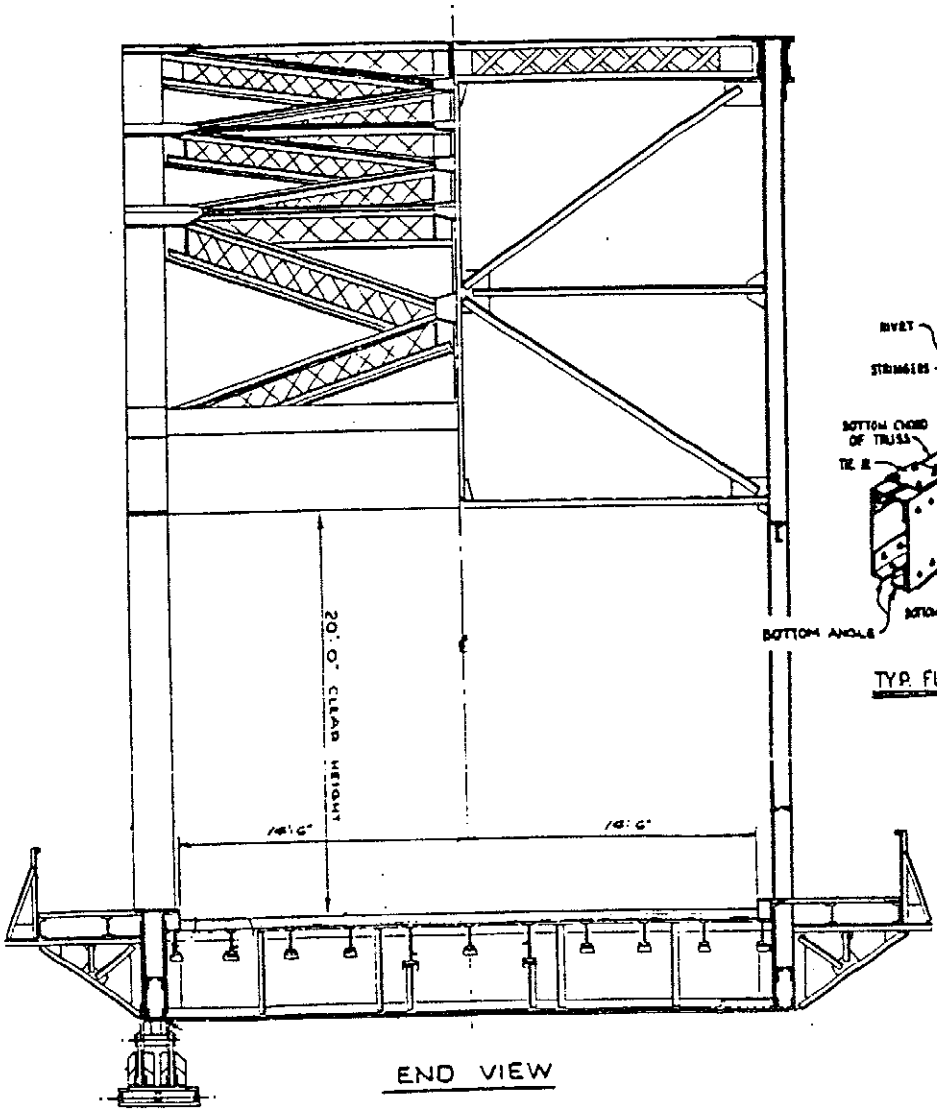
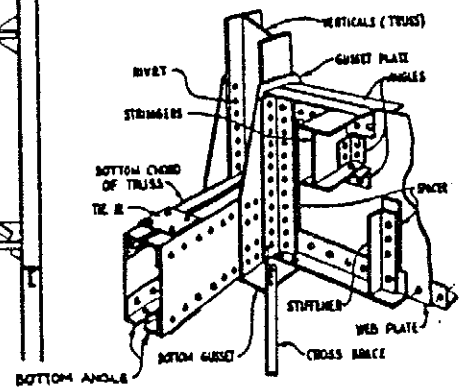


MILFORD BRIDGE
Overall View

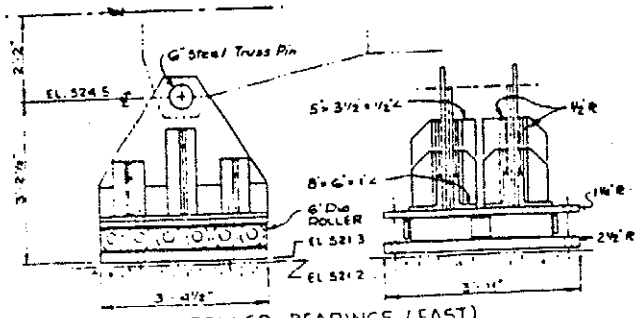
MILFORD BRIDGE
Various Details



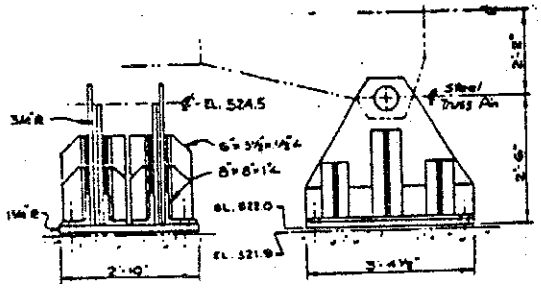
END VIEW



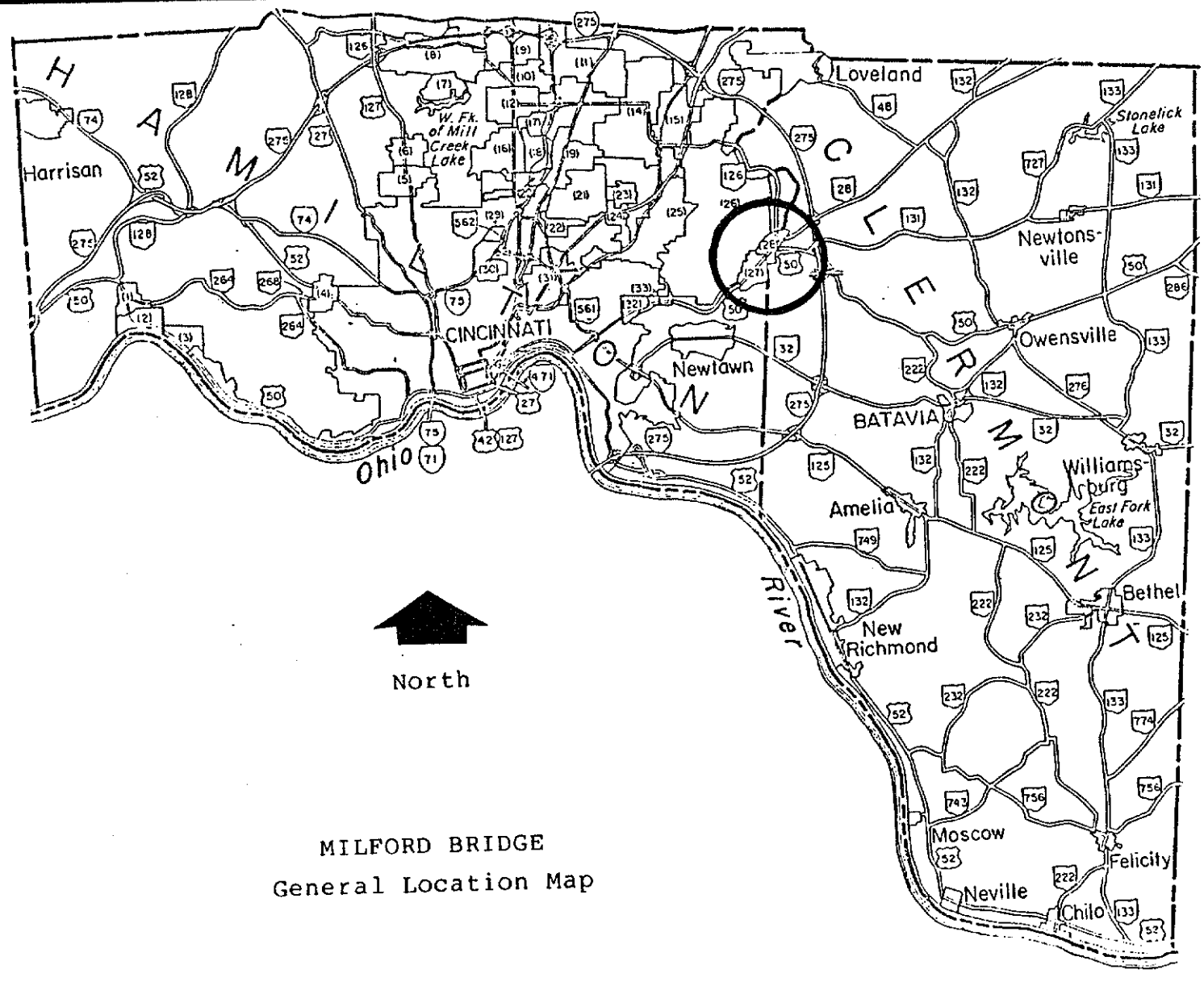
TYP. FLOOR BEAM CONNECTION
ISOMETRIC



ROLLER BEARINGS (EAST)



FIXED BEARINGS (WEST)



MILFORD BRIDGE
General Location Map

MILFORD BRIDGE
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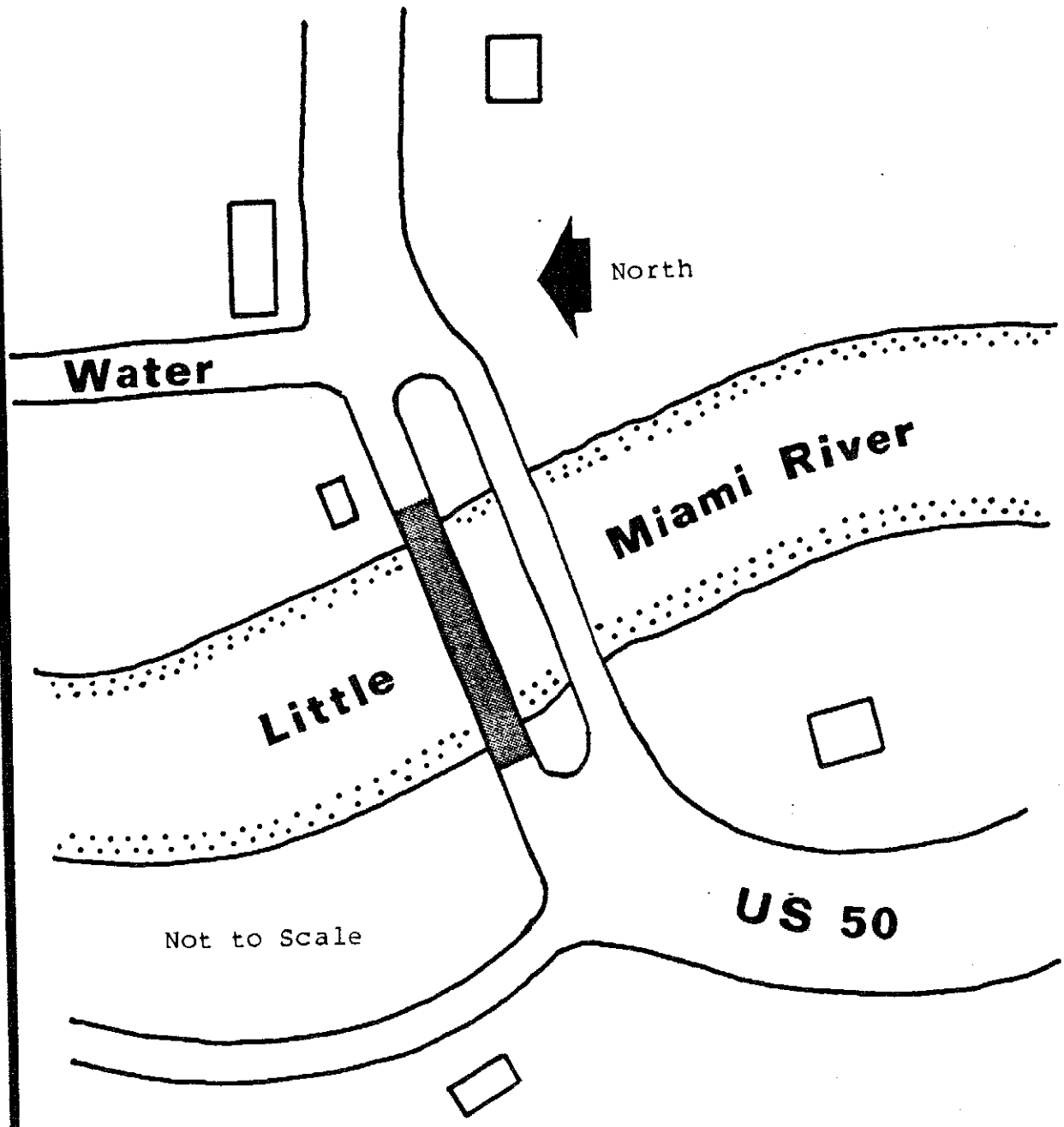

MILFORD BRIDGE
Site Map